

WHAT IS CLAIMED IS:

1. A shock absorber for a vehicle comprising:
a cylinder;
a piston reciprocally disposed in the cylinder; and
5 a magnetic field generating unit for generating a magnetic field in a radial
direction of the piston,

wherein:
the magnetic field generating unit is mounted at one of an interior side of the
cylinder or an exterior side of the piston; and

10 an interior side of the cylinder or an exterior side of the piston opposite the
magnetic field generating unit is formed of a metallic material with relatively high
electrical conductivity.

2. The shock absorber of claim 1, further comprising first and second
15 permanent magnets respectively mounted at an uppermost side of the piston and an
uppermost interior side of the cylinder, the first and second permanent magnets having
opposing polarities.

3. The shock absorber of claim 1, wherein:
20 the magnetic field generating unit comprises a plurality of unit magnets; and
each of the unit magnets is ring-shaped and generates a magnetic field in the
radial direction of the piston.

4. The shock absorber of claim 1, wherein the magnetic field generating
25 unit is mounted at the interior side of the cylinder and a predetermined thickness of the
exterior side of the piston is made of a copper material.

5. The shock absorber of claim 1, wherein the magnetic field generating
unit is mounted at the exterior side of the piston and a predetermined thickness of the
30 interior side of the cylinder is made of a copper material.

6. The shock absorber of claim 1, further comprising a first spring applying an elastic force to the piston in a moving direction of the piston.

7. The shock absorber of claim 6, wherein the first spring is disposed above the uppermost side of the piston.

8. The shock absorber of claim 7, further comprising:
a second spring disposed at an end of the first spring distal to the piston; and
a rubber member disposed between the first and second springs.

9. The shock absorber of claim 6, wherein spring supporters are disposed at a lower portion of the piston and an upper portion of the cylinder, and the first spring is abutted between the spring supporters.

10. The shock absorber of claim 1, further comprising a rotation restricting unit for restricting rotation of the piston when the piston reciprocates.

11. The shock absorber of claim 10, wherein the rotation restricting unit comprises:

a guide groove longitudinally formed at the piston; and
a guide member mounted on an interior wall of the cylinder, the guide member having a projection at a position corresponding to the guide groove.

12. The shock absorber of claim 10, wherein the rotation restricting unit comprises:

a guide projection longitudinally formed at the piston; and
a guide member mounted on an interior wall of the cylinder, the guide member having a groove at a position corresponding to the guide projection.